



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,568	10/29/2001	David Edward Wenstrup	2801	4678

7590

06/13/2003

Milliken & Company  
P.O. Box 1927  
Spartanburg, SC 29304

EXAMINER

BEFUMO, JENNA LEIGH

ART UNIT

PAPER NUMBER

1771

DATE MAILED: 06/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/057,568	WENSTRUP, DAVID EDWARD	
	Examiner	Art Unit	
	Jenna-Leigh Befumo	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 February 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 3, 9, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kalwaites (3,681,183).

Kalwaites discloses a nonwoven fabrics comprising discontinuous regions having interentangled fibers. The discontinuous regions are connected together by yarn bundles of fiber segments which define apertures or holes or other areas of low fiber density in a continuous pattern (abstract). Thus, the discontinuous regions correspond to the Applicant's first zone, with a first density, and the continuous region corresponds to the Applicant's second zone, with a lower density. As shown in the figures, the continuous region has various density regions within due to the apertures formed next to the low density fiber regions. Thus, claims 1 – 3, 9, and 10 are anticipated by Kalwaites.

3. Claims 1 – 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Difilippantonio et al. (5,582,603).

Difilippantonio et al. discloses a multiple sliver absorbent product with low density edges (abstract). The fibers in the sliver product are inherently intertwined to some degree, to produce the nonwoven product. The lower layer of the absorbent product varies in density (column 2, lines 8 – 10). The central portion of the layer is compressed to increase its density, while the

Art Unit: 1771

outer edges have a lower density (column 2, lines 10 – 18). The different density regions are connected together via fiber intertwining since the fabric is compressed after the fabric layer was formed, and the regions are not bonded together to form the multi-denier layer. Thus, claims 1 – 3 are anticipated Difilippantonio et al.

4. Claims 1 – 4, 9 – 11, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Howey (6,075,682).

Howey discloses a wiping material comprising a nonwoven layer spot bonded to film layer (abstract). The nonwoven layer comprises a carded web having 0 – 80% rayon fibers, 0 – 100% polyester fibers and 0 – 60% amorphous polyester binder fibers (column 2, lines 10 – 12). The fibers in the carded web are intertwined during the production of the web to some degree. The wiping material is formed by thermally bonding the nonwoven web to a film layer using heat and pressure (column 2, lines 1 – 6). The locations in the webs where the spot bonds are located would have a higher density than the areas which have not been spot bonded since the material is compressed during the heat treatment. Thus, the web would have areas with two different densities. Further, the figures show that the lofty areas taper down to form the compressed areas (Figures 2 – 3). The tapered area between the compressed spot bonded regions and the uncompressed regions would have a density which varies from the higher density to the lower density since the density change is not instantaneous. Therefore, claims 1 – 4, 9 – 11, and 16 are anticipated by Howey.

5. Claims 1 – 5, 9 – 12, 16, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Hoyle et al. (5,741,380).

Art Unit: 1771

Hoyle et al. discloses a multi-density batt having at least one high density region and at least one low density region (abstract). The batt comprises both matrix fibers which can be polyester fibers, and binder fibers which can be polyester copolymer fibers or sheath/core fibers with a low melting polyester sheath (column 6, line 59 – column 7, line 4). The batting is formed on a cross-lapper and before passing through a series of drafting rolls (column 7, lines 53 – 56). The fibers in the batting would inherently be intertwined to some degree to form the web. The variable thickness batting is passed through drafting rolls which vary in speeds between two values (column 11, lines 30 – 36), producing a variable density batting having regions with a high density, regions with a low density, and regions with variable density created when the draft rollers change velocity. Therefore, claims 1 – 5, 9 – 12, 16, and 17 are rejected.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5, 7, 8, 12, 14, 15, 17, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howey in view of Hoyle et al.

The features of Howey and Hoyle et al. have been set forth above. Howey discloses a nonwoven fabric made from polyester matrix fibers and polyester binder fibers. However, Howey fails to teach using sheath bicomponent fibers as the binder fiber. Hoyle et al. is drawn to a nonwoven fabric produced with binder fibers. Hoyle et al. discloses that the binder fibers can be either low melting polyester copolymers or sheath core binder fibers have a low melting

Art Unit: 1771

polyester material as the sheath material (column 7, lines 1 – 5). Therefore, it would have been obvious to one of ordinary skill in the art to substitute the sheath/core polyester binder fibers taught by Hoyle et al., for the polyester binder fibers taught by Howey since Hoyle et al. suggests the sheath core binder fibers can be used interchangeably with monocomponent binder fibers. Thus, claims 5, 7, 8, 12, 14, 15, 17, 19 and 20 are rejected.

8. Claims 7, 8, 14, 15, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoyle et al.

The features of Hoyle et al. have been set forth above. While Hoyle et al. discloses an example made with 80% polyester matrix fibers and 20% binder fibers, Hoyle et al. discloses that the nonwoven material can have other percentages of the binder and matrix fibers (column 7, lines 4 – 5). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the claimed binder fiber and matrix range, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215. One of ordinary skill in the art would increase the amount of binder fibers to produce a fabric which has better dimensional stability and increased strength properties since the fabric increased amount of binder fibers will produce more bonds between the fibers. Therefore, claims 7, 8, 14, 15, 19, and 20 are rejected.

9. Claims 6, 13, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoyle et al. in view of Matsunaga et al. (5,646,077).

The features of Hoyle et al. have been set forth above. Hoyle et al. discloses that nonwoven batting can be used to form a cushion (abstract). While Hoyle et al. discloses using bicomponent fibers, Hoyle fails to teach using bicomponent fibers where the sheath has a melt

Art Unit: 1771

temperature of between 110°C to about 180°C. Matsunaga et al. is drawn to sheath/core polyester binder fibers. Matsunaga et al. discloses polyester binder fibers which are suitable in cushion material due to a soft hand and to a resistance to flattening and a good adhesion strength (column 1, lines 11 – 15). The binder fiber has a polyester sheath component with a melting point of not less than 100°C (column 2, lines 33 – 37). Therefore, it would have been obvious to one of ordinary skill in the art to use the binder fibers taught by Matsunaga et al. in the nonwoven material taught by Hoyle et al. since Matsunaga et al. teaches the binder fibers are suitable for cushions, maintain their shape, and have a soft hand. Also, using binder fibers with a lower melting point would be less expensive since lower temperatures are required to melt the fibers and subsequently bond the fibers together. Thus, less energy would be required to make the final product. Therefore, claims 6, 13, and 18 are rejected.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna-Leigh Befumo whose telephone number is (703) 605-1170. The examiner can normally be reached on Monday - Friday (9:00 - 5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Application/Control Number: 10/057,568  
Art Unit: 1771

Page 7

Jenna-Leigh Befumo  
June 11, 2003



CHERYLA JUSKA  
PRIMARY EXAMINER